APPENDIX 49

DMIA Proposals

Energex

DMIA Proposals

2015 - 2020

Asset Management Division

energex

positive energy

Version control

Version	Date	Description
1.0	01/10/2014	Final version for submission

Energex Limited (Energex) is a Queensland Government Owned Corporation that builds, owns, operates and maintains the electricity distribution network in the growing region of South East Queensland. Energex provides distribution services to almost 1.4 million domestic and business connections, delivering electricity to a population base of around 3.2 million people.

Energex's key focus is distributing safe, reliable and affordable electricity in a commercially balanced way that provides value for its customers, manages risk and builds a sustainable future.

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1 DMIA introduction

The current Energex Demand Management Incentive Scheme (DMIS), approved by the AER in October 2008, is funded by the Demand Management Incentive Allowance (DMIA) of $5 million over the current regulatory control period. The AER's 2014 F & A final decision states the AER's intention to apply a DMIS in the 2015-20 regulatory control period and continue with a DMIA of $5 million over the period[1].

The DMIA is provided for the development and delivery of innovative demand management solutions that provide long-term benefits to Energex and its customers. It is provided as additional funding to the capital and operational standard control expenditure amounts for demand management (DM) projects approved in Energex's Demand Management Strategy within the distribution determination.

The funding is an incentive for Distribution Network Service Providers (DNSPs) to explore and develop efficient non-network alternatives or to manage the expected demand for standard control services in some other way, rather than through network augmentation.

[1] Australian Energy Regulator, Final Framework and Approach for Energex and Ergon Energy – Regulatory control period commencing 1 July 2015, April 2012, page 15.

2 DMIA 2015-2020

Energex anticipates that a number of significant changes will occur across the industry during 2015-2020. For example, the way that consumers use energy will continue to change as pricing mechanisms change, new technologies such as EVs, batteries, HANs and smart appliances become more affordable and as a greater array of market participants respond to increased contestability.

The DMIA projects outlined below support the need to grow DM capabilities and implement improvements to network management from 2015 to 2020 while also taking steps to ensure Energex's DM program integrates effectively with new technologies and market structures that will typify the market in the longer term.

In examining the drivers for change, a vision emerges of what the DM world could look like in 2020. Some possibilities include:

- Real-time customer participation in a national Demand Response market in response to dynamic time based price signals
- Automation of DM responses through technology
- Greater use of battery storage in combination with embedded generation (solar, gas)
- Widespread deployment of interval meters
- Integration of Home Area Networks to automate management of household demand in real-time, including managing greater numbers of smart appliances
- Increasing penetration of electric vehicles in the automotive market
- Increased participation and competition in the energy market with retailers, aggregators and other third parties providing arrays of offers to customers to manage their energy and costs
- Increased DM capabilities providing Energex with an additional means of managing the risks associated with changing network security standards and revised voltage standards as well as providing a network tool to manage growing LV network impacts due to the emergence of new grid-side technologies.

A range of new technologies will emerge in the coming years and will change the way that customers rely on and use the electricity network. Energex's DM programs can play a key role in effectively integrating new technologies into the grid as well as managing these effectively.

The DM Program will utilise DMIA (DMEGCIS[2]) funding to analyse, investigate and develop solutions / frameworks to effectively manage and/or mitigate emerging drivers of demand.

The context of the energy market and industry is changing rapidly with the introduction of new technologies, introduction of smart grid type capabilities, recent increases in electricity prices and a raft of proposed market reform measures and regulatory changes all set to have significant impacts on Energex's current DM operations. It is proposed that DMIA funding be utilised to:

- Secure current load control capability
- Build additional load control capability
- Develop capability to lead the design and specification of the key elements of our future DM mechanisms
- Integrate with existing and emerging technologies to inform Energex in key areas.

[2] Changing to Demand Management and Embedded Generation and Connection Incentive Scheme (DMEGCIS) in 2015-2020

3 DMIA Proposals 2010-2015

The DMIA proposals for the 2010 – 2015 regulatory determination period consist of a number of projects as shown in Table 1 and Table 2.

3.1 Approved project proposal

Table 1 provides the total approved DMIA projects.

Table 1 – DMIA Program previously approved

DMIA Program – Project initiatives approved by AER	Cost $ (Opex)
1. Network Pricing Initiatives project in 2010-11	$54,656
Total	**$54,656**

3.2 Energex endorsed project proposals

Table 2 provides details about the endorsed DMIA projects which have commenced in the current regulatory period 2010 – 2015:

Table 2 – DMIA Program endorsed

DMIA Program – Project Initiatives for approval now	Estimated Cost (Opex)
1. AFLC / Zigbee - Load Control Interface to Smart Appliances - Project	$115,000
2. Small to Medium Business (SME) Demand Response Investigation	$250,000
3. Low Voltage Network Power System Static-State Estimation	$75,000
4. Energy Efficiency Research Project	$200,000
5. Residential Distributed Energy Resources Research (battery storage)	$300,000
6. Customer Load Profile Market Segmentation Research	Up to $500,000
Total	**$1,440,000**

4 DMIA Proposals 2015 - 2020

4.1 Project proposals for consideration for regulatory period 2015-2020

In addition to the above projects, Table 3 contains an overview of future project proposals.

Table 3 - DMIA proposals for 2015-2020

DMIA Program – Project Initiatives proposed for submission in 2015-2020
1. Review strategic projects as required to lay ground work for 2020 to 2025 residential strategy and program: Energy efficiency, Smart appliances, Distributed storage, Distributed generation, Electric Vehicles
2. HAN (Home Area Network) Research Projects
3. Residential Appliance: Controlled Load Simulation Modelling
4. Control of Third Party Building Management Systems (BMS)
5. SME Demand Management Response Potential Study: Phase Two
6. Electric Vehicle Research

4.2 DMIA Funding 2015 - 2020

The proposed DMIA projects for the 2015 – 2020 regulatory determination period aim to apply research and development in a way that incrementally improves and benefits Energex's current and proven capabilities and contributes to the long term goals of DM and the organisation more generally. Funding required to support these projects is a total of $5 million with a maximum requirement of $1 million annually over the 2015 – 2020 period.

5 Eligibility Screening and Assessment Process

Energex has been reviewing and screening the proposed DMIA project initiatives for initial submission on the basis of a DMIA compliance assessment. DMIA projects are analysed against the criteria outlined below. The DMIA proposals to be submitted in 2015-2020 will be assessed against these criteria and will be reviewed at time of detailed project submission.

***DMIS Criterion**: Demand management projects or programs are measures undertaken by a DNSP to meet customer demand by shifting or reducing demand for standard control services through non–network alternatives or the management of demand in some other way rather than increasing supply through network augmentation.*

	Strategic Projects	HAN Research	HWACPP Controlled Load Simulation Modelling	Control of Third Party Building Management Systems	SME Demand Management Response Potential Study: Phase Two	Electric Vehicle Research
Meet the Criterion	✓	✓	✓	✓	✓	✓

***DMIS Criterion**: Demand management projects or programs may be innovative, and designed to build demand management capability and capacity and explore potentially efficient demand management mechanisms, including but not limited to new or original concepts.*

	Strategic Projects	HAN Research	HWACPP Controlled Load Simulation Modelling	Control of Third Party Building Management Systems	SME Demand Management Response Potential Study: Phase Two	Electric Vehicle Research
Meet the Criterion	✓	✓	✓	✓	✓	✓

***DMIS Criterion**: Demand management projects or programs may be:*

a. broad–based demand management projects or programs—which aim to reduce demand for standard control services across a DNSP's network, rather than at a specific point on the network. These may be projects targeted at particular network users, such as residential or commercial customers, and may include energy efficiency programs, and/or

b. peak demand management projects or programs—which aim to address specific network constraints by reducing demand on the network at the location and time of the constraint.

	Strategic Projects	HAN Research	HWACPP Controlled Load Simulation Modelling	Control of Third Party Building Management Systems	SME Demand Management Response Potential Study: Phase Two	Electric Vehicle Research
Meet the Criterion	✓	✓	✓	✓	✓	✓

***DMIS Criterion**: Recoverable projects and programs may be tariff or non-tariff based.*

	Strategic Projects	HAN Research	HWACPP Controlled Load Simulation Modelling	Control of Third Party Building Management Systems	SME Demand Management Response Potential Study: Phase Two	Electric Vehicle Research
Meet the Criterion	✓	✓	✓	✓	✓	✓

***DMIS Criterion**: Expenditure under the DMIA can be in the nature of capex or opex.*

	Strategic Projects	HAN Research	HWACPP Controlled Load Simulation Modelling	Control of Third Party Building Management Systems	SME Demand Management Response Potential Study: Phase Two	Electric Vehicle Research
Meet the Criterion	✓	✓	✓	✓	✓	✓

***DMIS Criterion**: Costs recovered under this scheme:*

a. must not be recoverable under any other jurisdictional incentive scheme
b. must not be recoverable under any other state or Australian Government scheme
c. must not be included in forecast capital or operating expenditure approved in the distribution determination for the next regulatory control period, or under any other incentive scheme in that determination.

	Strategic Projects	HAN Research	HWACPP Controlled Load Simulation Modelling	Control of Third Party Building Management Systems	SME Demand Management Response Potential Study: Phase Two	Electric Vehicle Research
Meet the Criterion	✓	✓	✓	✓	✓	✓